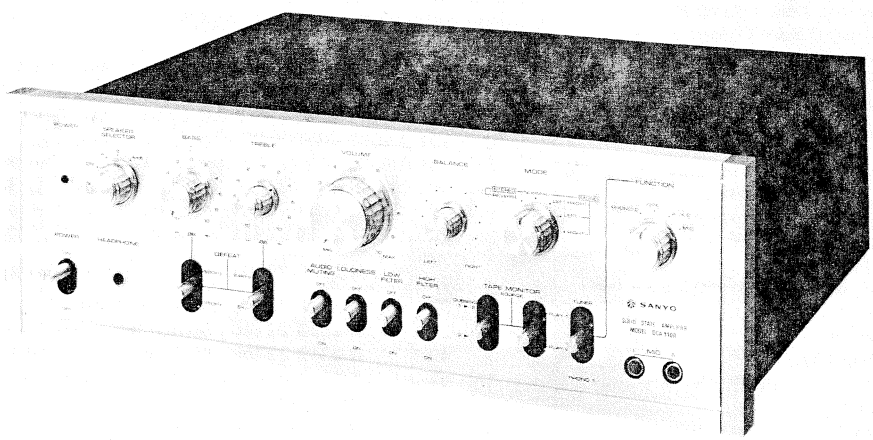
SANYO

SANYO
STEREO AMPLIFIER
DCA 1100
SERVICE MANUAL



SPECIFICATIONS

General

Transistors

TIS-97A	x 4 (Equalizer P.C. Ass'y)
2SA726	x 4 (Equalizer & Pre. P.C. Ass'y)
2SK24E	x 2 (Pre. P.C. Ass'y)
2SC693FU	x 6 (Pre. & Tone P.C. Ass'y)
2SA659D	x 5 (Main & Protector P.C. Ass'y)
UPA-41C	x 2 (Main P.C. Ass'y)
2SC1092	x 4 (Main P.C. Ass'y)
2SC1175	x 6 (Main & Protector P.C. Ass'y)
2SC1161	x 2 (Main P.C. Ass'y)
2SA653	x 2 (Main P.C. Ass'y)
TKS66N	x 2 (Main P.C. Ass'y)
TKS29P	x 2 (Main P.C. Ass'y)
2SC875D	x 1 (Protector P.C. Ass'y)

Diodes

2SD325D	x 1 (Power Supply P.C. Ass'y)
DS422	x 14
DS430	x 6
DS130	x 1
1N4756	x 1
DS131B	x 1
5B2	x 1
1S188	x 2

Power source AC 120V - 240V 50/60 Hz
Plugging Switchable

Dimension (Approx.) 16-9/16"(W) x 13"(D) x 5-3/16"(H)
(420 x 330 x 130 mm)

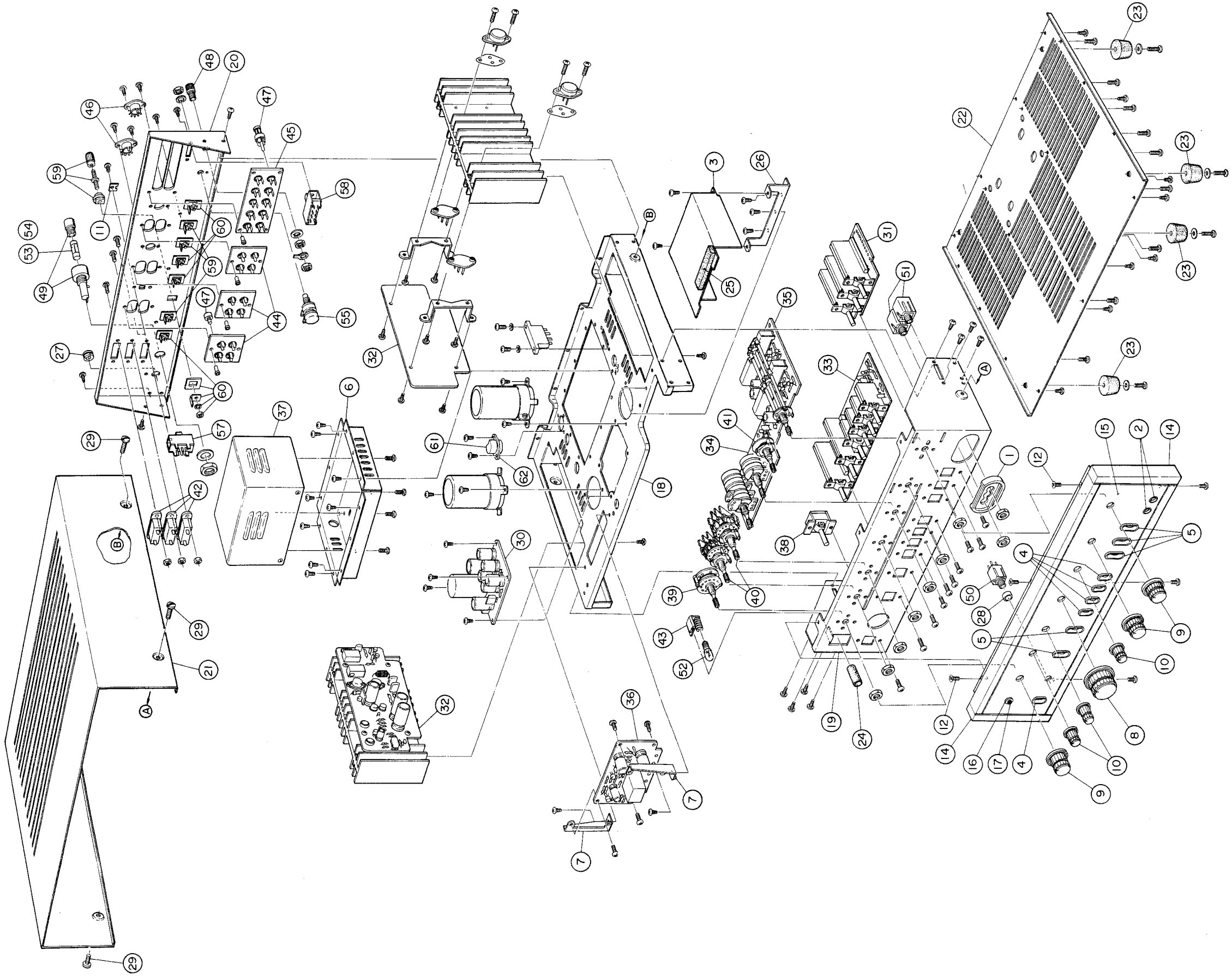
Weight (Approx.) 19 lbs. (8.4 kg)

PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKAGE PARTS			
	131 6 1139 34409	Box Corrugate Exp	1
	131 6 3009 15850	Pad	1
	131 6 3009 15860	Pad	1
	131 6 2119 00370	Bag Polyethylene Exp	1
	131 6 2719 10300	Bag Fan	1
	131 6 4119 26001	Explanatory Booklet	1
	131 6 4159 14700	Notes	1
	131 6 4559 10100	Manufacturing No.	1
CHASSIS & CABINET PARTS			
1	131 2 3701 12800	Mount Electric Part, Mic Jack	1
2	131 2 4203 15000	Washer, Mic Jack	2
3	131 2 6103 12500	Cover Shield, Equalizer	1
4	131 2 6113 12100	Shelter, Lever SW 2 Position	5
5	131 2 6113 12200	Shelter, Lever SW. 3 Position	5
6	131 2 3617 11600	Metal Mount Trans	1
7	131 2 3614 13300	Mount Prying C Board, Protector	2
8	131 0 1001 21000	Knob Assy, Volume	1
9	131 0 1001 20600	Knob Assy, Function, Mode, Sp Select	3
10	131 0 1001 20700	Knob Assy, Balance, Bass, Treble	3
11	131 2 7104 00200	Plate Pad Switch	1
12		Screw, Flat Hd (+)	3
		Screw, Pan Hd Tpg 3 x 6 Panel Front + Chassis Panel Decorate Assy + Panel F Mount Prying C Bd + Chassis Metal Mount Trans + Chassis Main Amp Assy + Chassis C (4700μF) + Chassis Power Assy + Chassis Pre Assy + Chassis	45
		Screw, Pan Hd Tpg 3 x 6 Panel Rear + Chassis Panel Bottom + Panel L & R Din Socket + Panel Rear	24
		Screw, Pan Hd 3 x 6 Protector Assy + Mount P.C. Bd Function Tape Monitor Low & High Filter Loudness + Panel F Audio Muting Tone Defect Power	24
		Screw, Pan Hd 3 x 8 Tr43 (Power Supply) + Chassis	1
		Screw, Pan Hd 3 x 8	10
		Screw, Pan Hd 4 x 10 Power Trans + Metal Mount Trans	4
		Screw, Pan Hd 4 x 10 Panel Bottom + Chassis	6
		Screw, Pan Hd Tpg 3 x 10 5B2 + Chassis	2

Ref. No.	Part No.	Description	Q'ty
CHASSIS & CABINET PARTS			
		Screw, Pan Hd 3 x 10 AC Socket + Panel Rear	6
		Screw, Pan Hd 2.6 x 6 Slide SW (Imp)	4
		Nut, Hex Hd M3	16
		Screw, Pan Hd 4 x 12 Leg Rubber+Panel Bottom	4
		Washer, Plain 4φ x 10φ x 1t	4
13	131 0 1016 14203	Panel Decorate Assy	1
14	131 2 1311 30701	├ Sash	2
15	131 2 1203 22303	├ Panel Control	1
16	131 2 1504 10401	├ Plate Sign Lamp	1
17	131 2 1503 10600	└ Decorate Sign	1
18	131 2 3301 17400	Chassis	1
19	131 2 3305 14900	Panel Front	1
20	131 2 3306 14601	Panel Rear	1
21	131 2 1410 11300	Cover	1
22	131 2 1105 13100	Plate Bottom	1
23	131 2 1804 10600	Leg Rubber	4
24	131 2 6301 10400	Cover PL	1.5
25	131 2 4208 15300	Spacer, Moldplane	1
26	131 2 3614 13200	Mount Prying C Board, Equalizer	1
27	131 2 6111 11300	Bushing, Power Cord	1
29	131 2 4201 12700	Screw, For Cover	4
28	131 2 4208 15100	Washer, Head Phone Jack	1
CHASSIS ELECTRICAL PARTS			
30	131 0 4001 30600	Printed Circuit Assy, Power Suppl	1
31	131 0 4001 30700	Printed Circuit Assy, Switch	1
32	131 0 4001 30800	Printed Circuit Assy, Main Amp	2
33	131 0 4001 30900	Printed Circuit Assy, Tone Control	1
34	131 0 4001 31000	Printed Circuit Assy, Pre Amp	1
35	131 0 4001 31100	Printed Circuit Assy, Equalizer	1
36	131 0 4001 31200	Printed Circuit Assy, Protector	1
37	4 2519 22671	Power Trans, 120/200/220/240V	1
C701 C702	4 2239 20500	Electrolytic Cap. 4700μF/63WV	2
38	4 2319 22840	Switch Lever, Power	1
39	4 2319 22710	Switch Rotary, Sp Selector 1-2-4	1
40	4 2319 22750	Switch Rotary, Tone Control	2
41	4 2319 22700	Switch Rotary, Mode SW. 1-2-5	1
42	4 2359 21490	Socket AC	3
43	131 0 4002 11000	Socket Pilot	1
44	4 2359 21230	Socket Phono 4P	3
45	4 2359 21240	Socket Phono 10P	1
46	4 2359 20190	Socket DIN	2
47	4 2369 20561	Plug Connector	4
48	4 2379 21060	Terminal Gnd	1
49	4 2359 21390	Fuse Holder	1
50	4 2359 21080	Jack Head Phone	1
51	4 2359 21410	Mic Jack	2
52	4 6129 20100	Pilot Lamp 6.3V 250mA	1
53	4 2349 20272	Fuse 5A (120V)	1

EXPLODED VIEW (CABINET, CHASSIS)



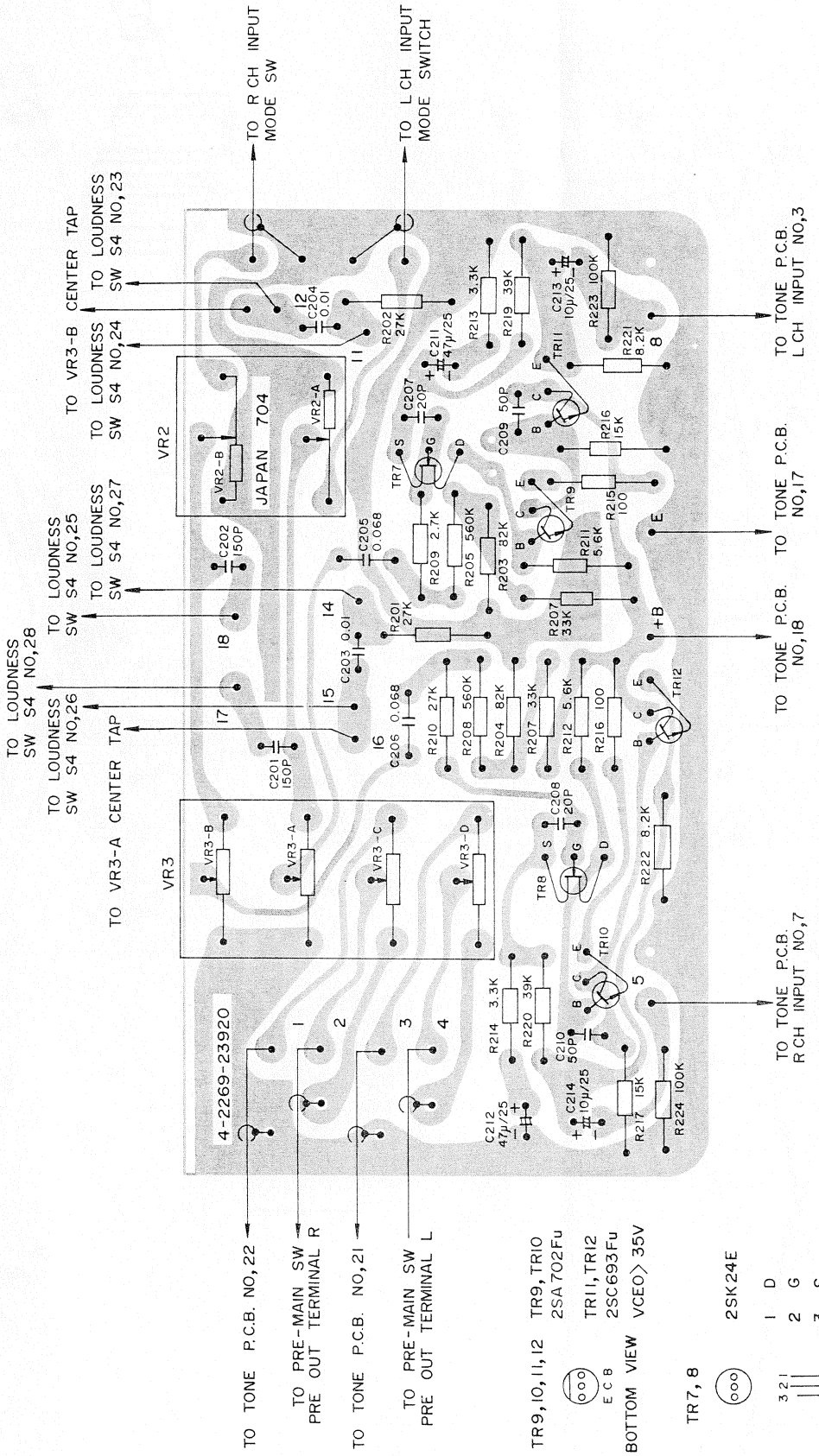
PARTS LIST

Ref. No.	Part No.	Description	Q'ty
CHASSIS ELECTRICAL PARTS			
54	4 2349 20350	Fuse 2.5A (200V, 220V, 240V)	1
55	4 2229 22900	Variable Resistor 250k-B x 2 AUX Level Adj.	1
56	4 2439 20182	Power Cord	1
57	4 2319 22810	Switch Slide 6P, Pre-Main Separate	1
58	4 2319 22820	Switch Slide 8P, Phono 2 Imp.,	1
59	4 2379 21080	Terminal 1P, Sp Terminal Black	4
60	4 2379 21081	Terminal 1P, Sp Terminal Red	4
61	4 2369 20550	Power Selector Plug	1
62	4 2359 21220	Power Selector Socket	1
D24	DCC-5B2 - - - - - N	Diode 5B2	1
		(CAPACITORS)	
C703	C2SJRM103C - -	P.P. 0.01μF ± 20% 600WV	1
	C1HFRM473A - -	Mylar 0.047μF ±20%50WV	6
		(RESISTORS)	
R717,R718	R2EDPK103A	Carbon 10 k ohm ±10% 1/4W	2
R711,R712	R2EDPK104A	Carbon 100k ohm ±10% 1/4W	4
R715,R716			
R709,R710	R2EDPK334A	Carbon 330k ohm ±10% 1/4W	4
R713,R714			
R707,R708	R2EDPK393A	Carbon 39 k ohm ±10% 1/4W	2
R701,R702	R2EDPK683A	Carbon 68 k ohm ±10% 1/4W	4
R705,R706			
R703,R704	R2EDPK224A	Carbon 220k ohm ±10% 1/4W	2
R721,R722	R2EDUJ392A	Carbon 3.9k ohm ±5% 1/4W	4
R739,R740			
R723,R724	R2EDUJ432A	Carbon 4.3k ohm ±5% 1/4W	4
R737,R738			
R725,R726	R2EDUJ512A	Carbon 5.1k ohm ±5% 1/4W	4
R735,R736			
R727,R728	R2EDUJ562A	Carbon 5.6k ohm ±5% 1/4W	8
R733,R734			
R741,R742,			
R759,R760			
R755,R756,	R2EDUJ912A	Carbon 9.1k ohm ±5% 1/4W	4
R745,R746			
R729-R732	R2EDUJ622A	Carbon 6.2k ohm ±5% 1/4W	8
R743, R744			
R757,R758			
R747,R748,	R2EDUJ123A	Carbon 12k ohm ±5% 1/4W	4
R753,R754			
R749-R752	R2EDUJ153A	Carbon 15k ohm ±5% 1/4W	4
R719,R720	R3DXPK471A	O.M.F. 470 ohm ±10% 2 W	2
PRE AMP P.C.B ASSY PARTS			
	131 0 4001 31000	Printed Circuit Assy	1
	4 2269 23920	Printed Circuit Bd	1
	4 2229 22930	Variable Resistor, 250k-Bx2, 20 kM x 2, Volume	1
	4 2229 22940	Variable Resistor, 250k-MN Balance	1
		(TRANSISTORS)	
TR11,TR12	20355100693620	2SC693 Fu (Sanyo)	2
TR9,TR10	TMM-2SA726F - -	2SA726 F (Mitsubishi)	2
TR7.TR8	20358500024500	2SK24 E (Sanyo)	2
		(RESISTORS)	
R215,R216	R2EDSK101A	Carbon 100 ohm ± 10% 1/4W	2
R213,R214	R2EDSK332A	Carbon 3.3k ohm ± 10% 1/4W	2
R209,R210	R2EDSK272A	Carbon 2.7k ohm ± 10% 1/4W	2
R211,R212	R2EDSK562A	Carbon 5.6k ohm ± 10% 1/4W	2
R221,R222	R2EDSK822A	Carbon 8.2k ohm ± 10% 1/4W	2
R217-R220	R2EDSK153A	Carbon 15 k ohm ± 10% 1/4W	4
R201,R202	R2EDSK273A	Carbon 27 k ohm ± 10% 1/4W	2
R207,R208	R2EDSK333A	Carbon 33 k ohm ± 10% 1/4W	2

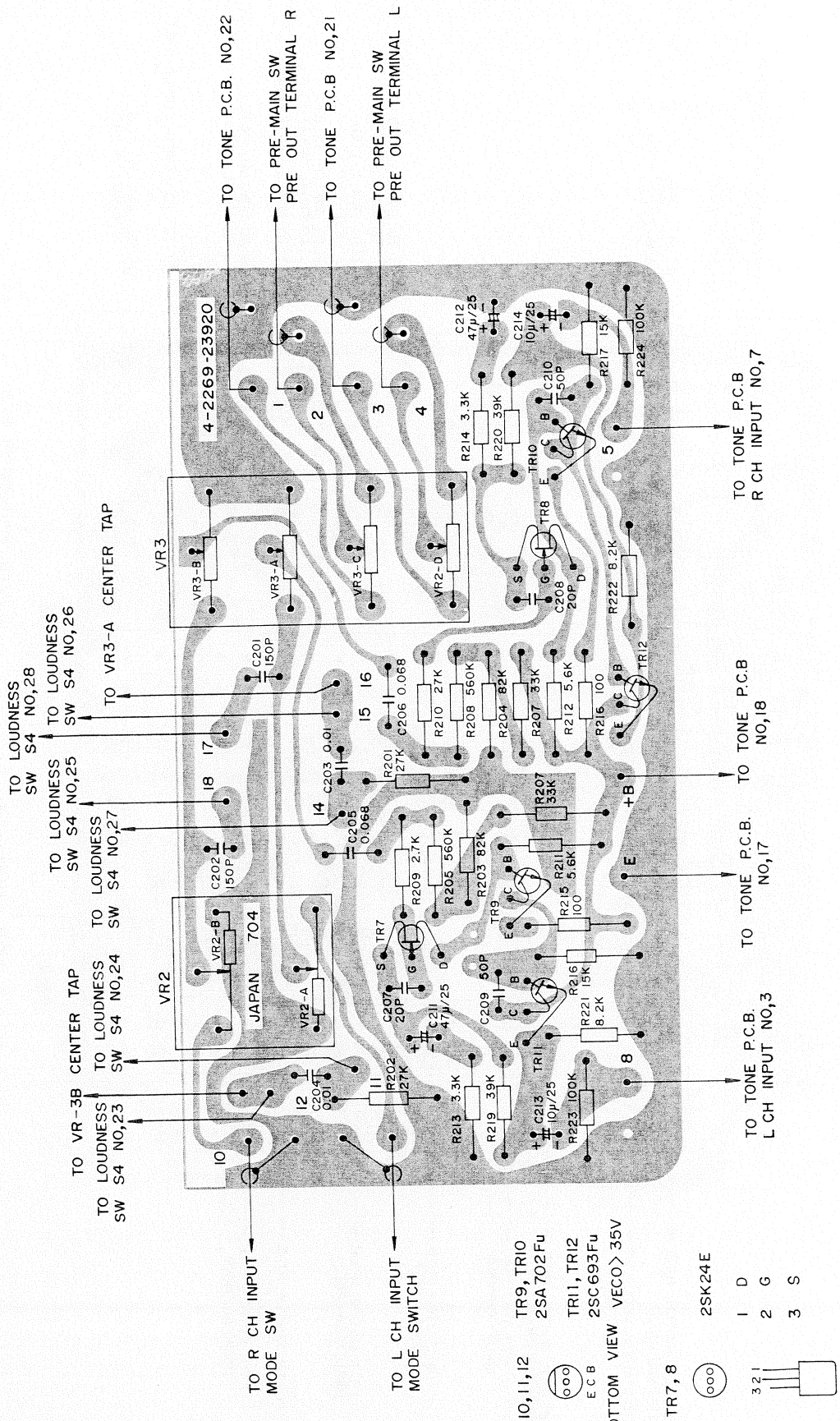
Ref. No.	Part No.	Description	Q'ty
PRE AMP P.C.B. ASSY PARTS			
R203,R204	R2EDSK823A	Carbon 82 k ohm ± 10% 1/4W	2
R205,R206	R2EDSK564A	Carbon 560k ohm ± 10% 1/4W	2
R219,R220	R2EDSK393A	Carbon 39 k ohm ± 10% 1/4W	2
		(CAPACITORS)	
C203,C204	C1HFAK103A	Mylar 0.01 μF ±10% 50WV	2
C205,C206	C1HFAM683A	Mylar 0.068μF ±20% 50WV	2
C201,C202	C1ESBK151A	Styrol 150 pF ± 10% 25WV	2
C207,C208	C1ECSM200SL	Ceramic 20 pF ± 20% 25WV	2
C209,C210	C1HCSM500SL	Ceramic 50 pF ± 20% 50WV	2
C211,C212	C1ERB-476A	Electrolytic 47 μF -10 - +150% 25WV	2
C213,C214	C1ETBM106A	Tantal 10 μF ± 20% 25WV	2
EQUALIZER P.C. B. ASSY PARTS			
	131 0 4001 31100	Printed Circuit Assy	1
	4 2269 23930	Printed Circuit Bd	1
	4 2319 22770	Switch Rotary, Function 2-6-5	1
		(TRANSISTORS)	
TR1,TR2	TII-TIS-97A-N	TIS-97A (Texas)	4
TR5,TR6			
TR3,TR4	TMM-2SA726F	2SA726 F (Mitsubishi)	2
		(RESISTORS)	
R117,R118	R2EDSK101A	Carbon 100 ohm ± 10% 1/4W	2
R111,R112	R2EDSK271A	Carbon 270 ohm ± 10% 1/4W	2
R107,R108	R2EDSK561A	Carbon 560 ohm ± 10% 1/4W	2
R101,R102	R2EDSK222A	Carbon 2.2k ohm ± 10% 1/4W	2
R115,R116	R2EDSK272A	Carbon 2.7k ohm ± 10% 1/4W	2
R121,R122	R2EDSJ822A	Carbon 8.2k ohm ± 5% 1/4W	2
R127,R128	R2EDSK103A	Carbon 10k ohm ± 10% 1/4W	2
R113,R114	R2EDSK333A	Carbon 33k ohm ± 10% 1/4W	2
R109,R110	R2EDSK473A	Carbon 47k ohm ± 10% 1/4W	2
R119,R120	R2EDSK563A	Carbon 56k ohm ± 10% 1/4W	2
R129,R130	R2EDSJ104A	Carbon 100k ohm ± 5% 1/4W	2
R103,R104	R2EDSK334A	Carbon 330k ohm ± 10% 1/4W	2
R105,R106	R2EDSK474A	Carbon 470k ohm ± 10% 1/4W	4
R125,R126			
R123,R124	R2HDSK272A	Carbon 2.7k ohm ±10% 1/2W	2
		(CAPACITORS)	
C117,C118	C1VTBM474A	Tantal 0.47μF ±20% 35WV	2
C101,C102	C1VTBM225A	Tantal 2.2 μF ±20% 35WV	2
C119,C120	C1HRB-106A	Electrolytic 10 μF -10 - +150% 50WV	2
C108,C107	C1VRB-107A	Electrolytic 100 μF -10 - +150% 35WV	2
C109,C110	C0JRB-107A	Electrolytic 100 μF -10 - + 150% 6.3WV	2
C111,C112	C1HCSJ250SL	Ceramic 25 pF ± 5% 50WV	2
C125,C126	C1HCSJ300SL	Ceramic 30 pF ± 5% 50WV	2
C103,C104	C1HCSJ500SL	Ceramic 50 pF ± 5% 50WV	2
C105,C106	C1HCSJ101SL	Ceramic 100pF ± 5% 50WV	2
C115,C116	C1HFSJ152A	Mylar 0.0015μF ± 5% 50WV	2
C113,C114	C1HFSJ822A	Mylar 0.0082μF ± 5% 50WV	2
C123,C124	C1HFSJ303A	Mylar 0.03 μF ± 5% 50WV	2

NOTES: 1. Parts orders must contain Model Number, Part Number, and Description.
2. Unless other wise noted, component parts indicated by parentheses in the column Q'ty aro not available.
3. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

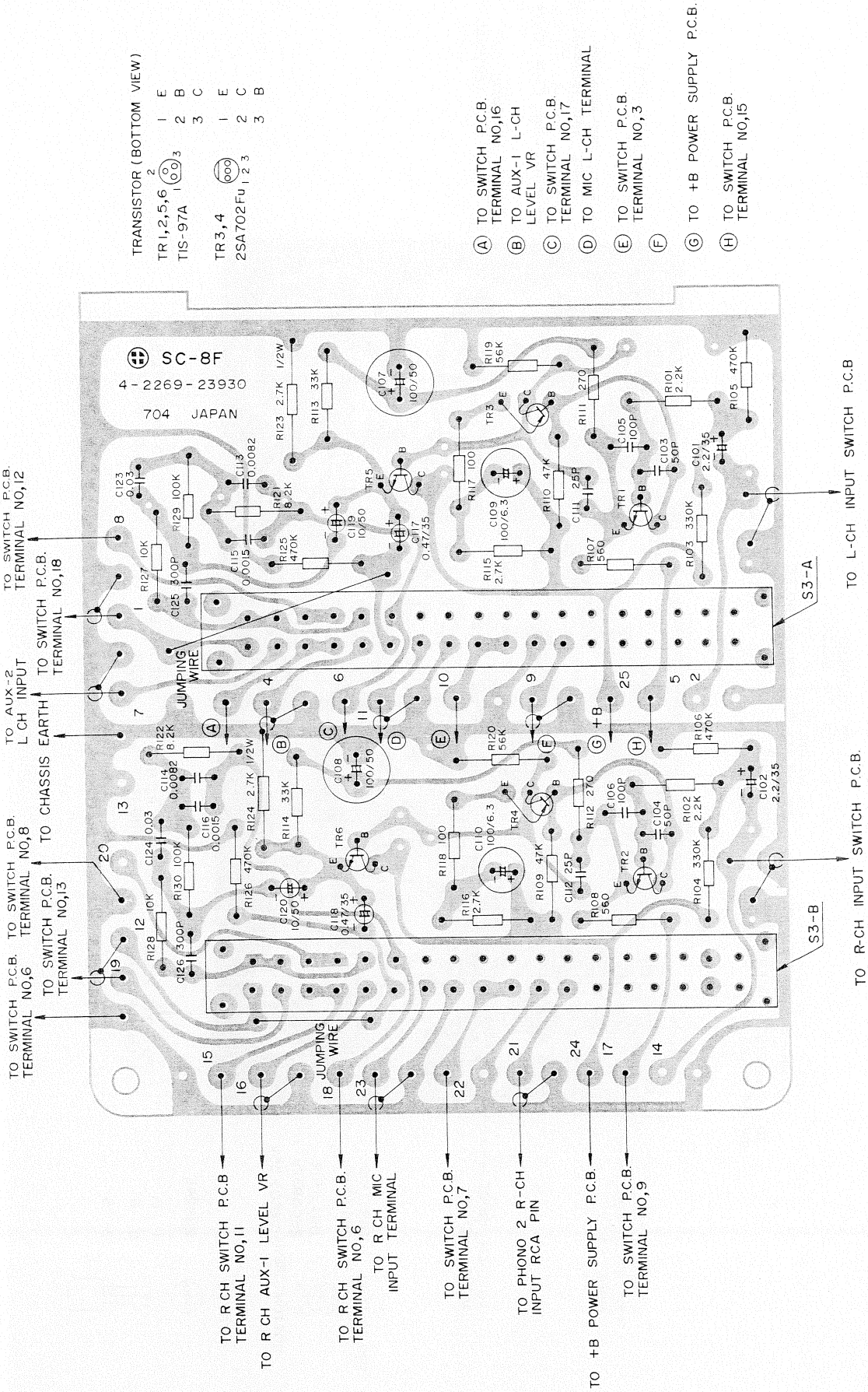
BOTTOM VIEW OF PRE AMP P.C.B.


4-2269-23920
VR3
VR2
JAPAN 704
TO TONE P.C.B. NO,22
TO PRE-MAIN SW PRE OUT TERMINAL R
TO TONE P.C.B. NO,21
TO PRE-MAIN SW PRE OUT TERMINAL L
TO VR3-A CENTER TAP
TO LOUDNESS SW S4 NO,26
TO LOUDNESS SW S4 NO,28
TO LOUDNESS SW S4 NO,25
TO LOUDNESS SW S4 NO,27
TO VR3-B CENTER TAP
TO LOUDNESS SW S4 NO,24
TO LOUDNESS SW S4 NO,23
TO R CH INPUT MODE SW
TO L CH INPUT MODE SWITCH
TO TONE P.C.B. NO,18
TO TONE P.C.B. NO,17
TO TONE P.C.B. L CH INPUT NO,3
TO TONE P.C.B. R CH INPUT NO,7
+B
TR9,10,11,12 TR9, TR10 2SA702Fu
TR11, TR12 2SC693Fu
BOTTOM VIEW VCEO> 35V
TR7,8 2SK24E
1 D
2 G
3 S

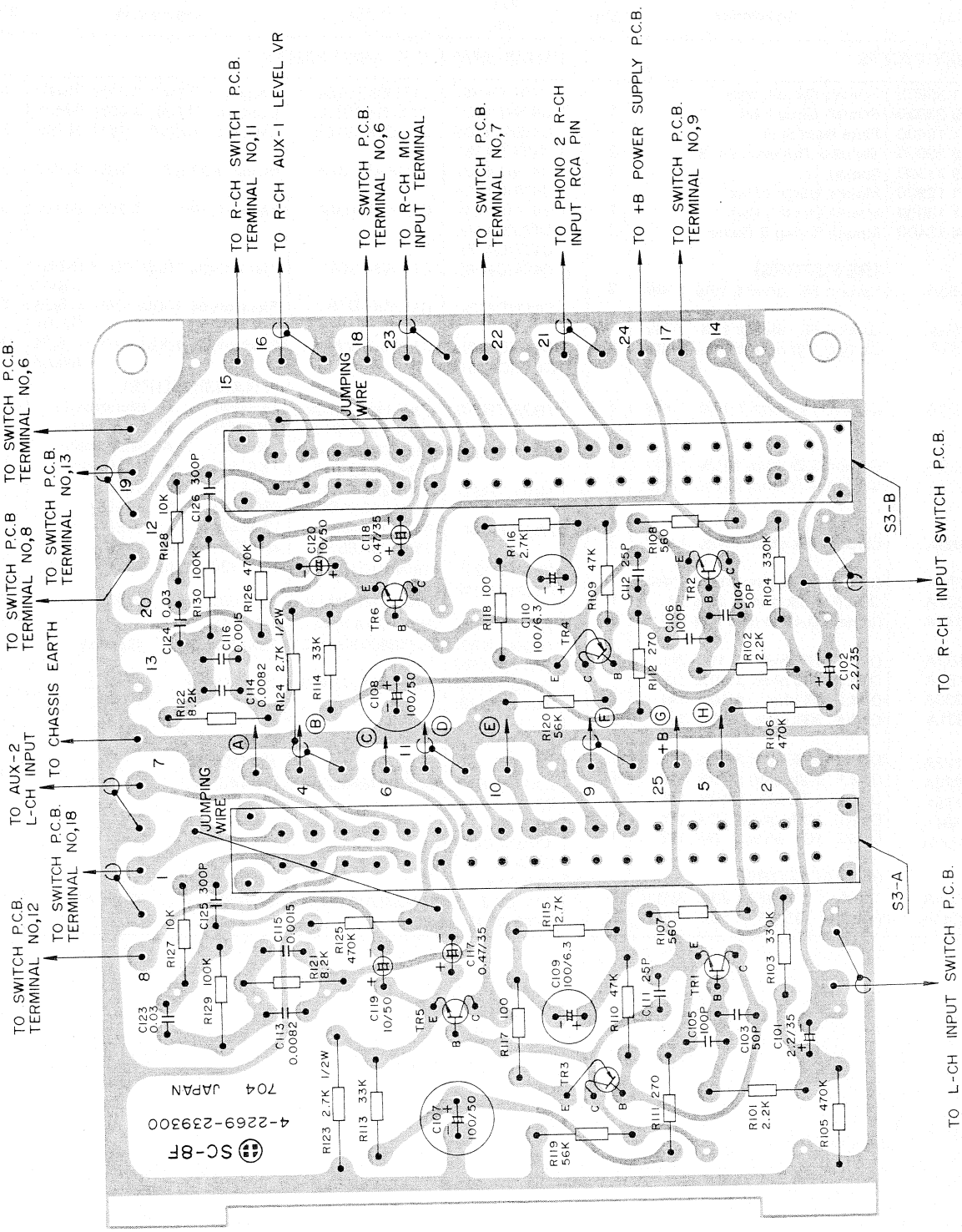
TOP VIEW OF PRE AMP P.C.B



BOTTOM VIEW OF EQUALIZER AMP P.C.B


SC-8F
4-2269-23930
704 JAPAN
TRANSISTOR (BOTTOM VIEW)
TR1,2,5,6 2SC1815 E B C
TR3,4 2SA702Fu E C B
TO SWITCH P.C.B. TERMINAL NO,12
TO SWITCH P.C.B. TERMINAL NO,18
TO AUX-2 L CH INPUT
TO CHASSIS EARTH
TO SWITCH P.C.B. TERMINAL NO,8
TO SWITCH P.C.B. TERMINAL NO,6
TO SWITCH P.C.B. TERMINAL NO,13
JUMPING WIRE
JUMPING WIRE
S3-A
S3-B
TO L-CH INPUT SWITCH P.C.B
TO R-CH INPUT SWITCH P.C.B.
Ⓐ TO SWITCH P.C.B. TERMINAL NO,16
Ⓑ TO AUX-1 L-CH LEVEL VR
Ⓒ TO SWITCH P.C.B. TERMINAL NO,17
Ⓓ TO MIC L-CH TERMINAL
Ⓔ TO SWITCH P.C.B. TERMINAL NO,3
Ⓕ
Ⓖ TO +B POWER SUPPLY P.C.B.
Ⓗ TO SWITCH P.C.B. TERMINAL NO,15
TO R CH SWITCH P.C.B TERMINAL NO,11
TO R CH AUX-1 LEVEL VR
TO R CH SWITCH P.C.B. TERMINAL NO,6
TO R CH MIC INPUT TERMINAL
TO SWITCH P.C.B. TERMINAL NO,7
TO PHONO 2 R-CH INPUT RCA PIN
TO +B POWER SUPPLY P.C.B.
TO SWITCH P.C.B. TERMINAL NO,9

TOP VIEW OF EQUALIZER AMP P.C.B


TO SWITCH P.C.B. TERMINAL NO,12
TO SWITCH P.C.B. TERMINAL NO,18
TO AUX-2 L-CH INPUT
TO CHASSIS EARTH
TO SWITCH P.C.B TERMINAL NO,8
TO SWITCH P.C.B. TERMINAL NO,13
TO SWITCH P.C.B. TERMINAL NO,6
TO R-CH SWITCH P.C.B. TERMINAL NO,11
TO R-CH AUX-1 LEVEL VR
JUMPING WIRE
TO SWITCH P.C.B TERMINAL NO,6
TO R-CH MIC INPUT TERMINAL
TO SWITCH P.C.B. TERMINAL NO,7
TO PHONO 2 R-CH INPUT RCA PIN
TO +B POWER SUPPLY P.C.B.
TO SWITCH P.C.B. TERMINAL NO,9
JUMPING WIRE
S3-A
S3-B
TO L-CH INPUT SWITCH P.C.B.
TO R-CH INPUT SWITCH P.C.B.
SC-8F
4-2269-239300
704 JAPAN

TRANSISTOR (BOTTOM VIEW)

TR1,2,5,6 TIS-97A: 1 E, 2 B, 3 C

TR3,4 2SA702Fu: 1 E, 2 C, 3 B

Ⓐ TO SWITCH P.C.B. TERMINAL NO,16

Ⓑ TO AUX-1 L-CH LEVEL VR

Ⓒ TO SWITCH P.C.B. TERMINAL NO,17

Ⓓ TO MIC L-CH TERMINAL

Ⓔ TO SWITCH P.C.B. TERMINAL NO,3

Ⓕ TO PHONO 2 L-CH TERMINAL

Ⓖ TO +B POWER SUPPLY P.C.B.

Ⓗ TO SWITCH P.C.B. TERMINAL NO,15

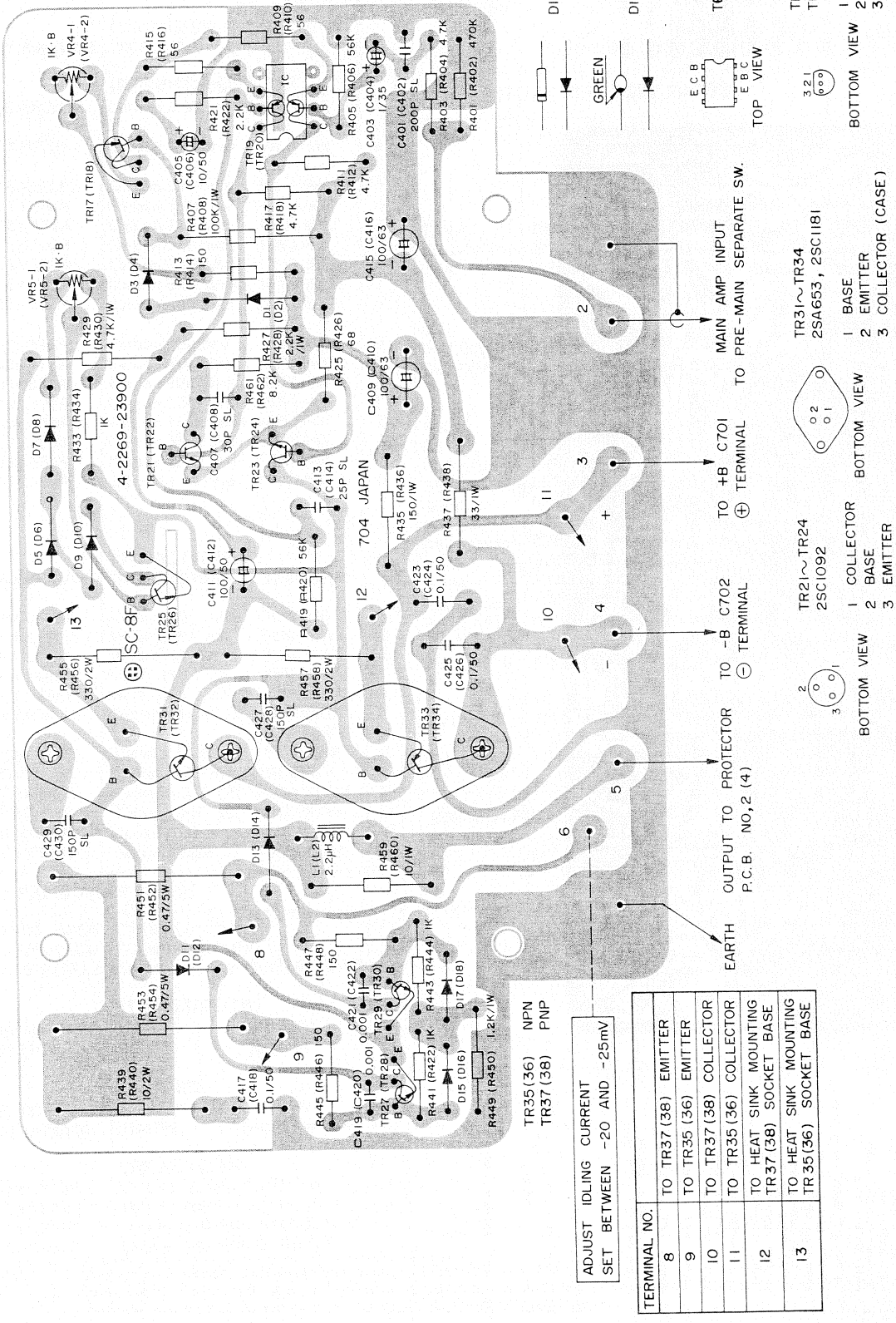
PARTS LIST

Ref. No.	Part No.	Description	Q'ty
MAIN AMP P.C.B. ASSY PARTS			
	131 0 4001 30800	Printed Circuit Assy	1
	4 2269 23900	Printed Circuit Bd	1
	131 2 6201 18400	Plate Heat Sink	1
	4 2229 22910	Variable Resistor, 1 k-B	2
	4 2359 21500	Socket Tr	2
	131 2 3701 12900	Mount Electric Part	1
	131 2 3701 13000	Mount Electric Part	1
	131 2 3614 13400	Mount Prying C Board	2
		(RESISTORS)	
R409(R410)	R2EDSK560A	Carbon 56 ohm ±10% 1/4W	2
R415(R416)			
R425(R426)	R2EDSK680A	Carbon 68 ohm ±10% 1/4W	1
R445(R446)	R2EDSK151A	Carbon 150 ohm ±10% 1/4W	3
R447(R448)			
R413(R414)			
R441(R442)	R2EDSK102A	Carbon 1k ohm ±10% 1/4W	3
R443(R444)			
R433(R434)			
R421(R422)	R2EDSK222A	Carbon 2.2k ohm ±10% 1/4W	1
R411(R412)	R2EDSK472A	Carbon 4.7k ohm ±10% 1/4W	3
R417(R418)			
R403(R404)			
R405(R406)	R2EDSK563A	Carbon 56k ohm ±10% 1/4W	2
R419(R420)			
R401(R402)	R2EDSK474A	Carbon 470k ohm ±10% 1/4W	1
R461(R462)	R3AXPK822A	O.M.F. 8.2k ohm ±10% 1W	1
R451(R452)	R3HEPKR47A	Cement 0.47 ohm ±10% 5W	2
R453(R454)			
R439(R440)	R3DXPK100A	O.M.F. 10 ohm ±10% 2W	1
R435(R436)	R3AXPK151A	O.M.F. 150 ohm ±10% 1W	1
R437(R438)	R3AXPK330A	O.M.F. 33 ohm ±10% 1W	1
R455(R456)	R3DXPK331A	O.M.F. 330 ohm ±10% 2W	2
R457(R458)			
R449(R450)	R3AXPK122A	O.M.F. 1.2k ohm ±10% 1W	1
R427(R428)	R3AXPK222A	O.M.F. 2.2k ohm ±10% 1W	1
R429(R430)	R3AXPK472A	O.M.F. 4.7k ohm ±10% 1W	1
R407(R408)	R3AXPK104A	O.M.F. 100k ohm±10% 1W	1
R459(R460)	R3AXPK100A	O.M.F. 10 ohm ±10% 1W	1
		(CAPACITORS)	
C403(C404)	C1VTBM105A	Tantal 1 μF ±20% 35WV	1
C413(C414)	C1HCSK250SL	Ceramic 25 pF ±10% 50WV	1

Ref. No.	Part No.	Description	Q'ty
MAIN AMP P.C.B. ASSY PARTS			
C407(C408)	C1ECSK300SL	Ceramic 30 pF ±10% 25WV	1
C401(C402)	C1ECSK201SL	Ceramic 200pF ±10% 25WV	1
C429(C430)	C1HCSK151SL	Ceramic 150pF ±10% 50WV	2
C427(C428)			
C419(C420)	C1HFAM102A	Mylar 0.001μF ±20% 50WV	2
C421(C422)			
C417(C418)	C1HFAM104A	Mylar 0.1μF ±20% 50WV	3
C423(C424)			
C427(C428)			
C405(C406)	C1HRB-106A	Electrolytic 10μF -10 - +150% 50WV	1
C411(C412)	C1HRB-107A	Electrolytic 100μF -10 - +150% 50WV	1
C409(C410)	C1JRB-107A	Electrolytic 100μF -10 - +150% 63WV	2
C415(C416)			
		(TRANSISTORS)	
TR35(TR36)	TBB-TKS66N-A	TKS66N A (Motorola)	1
	(TBB-TKS66N-B	TKS66N B (Motorola)	1)
TR37(TR38)	TBB-TKS29P-A	TKS29P A (Motorola)	1
	(TBB-TKS29P-B	TKS29P B (Motorola)	1)
TR31(TR32)	TNN-2SC1161-L	2SC1161 L (NEC)	1
	(TNN-2SC1161-M	2SC1161 M (NEC)	1)
TR33(TR34)	TNN-2SA653-L	2SA653 L (NEC)	1
	(TNN-2SA653-M	2SA653 M (NEC)	1)
TR21(TR22)	TNN-2SC1092-L	2SC1092 L (NEC)	2
TR23(TR24)	(TNN-2SC1092-K	2SC1092 K (NEC)	2)
TR19(TR20)	INN-MPA41C-N	UPA41C	1
TR29(TR30)	20356800659400	2SA659 D (Sanyo)	2
TR17(TR18)			
TR25(TR26)	20356701175400	2SC1175 D (Sanyo)	2
TR27(TR28)			
		(DIODES)	
D1,D3,D5, D7,D9,D15, D17 (D2,D4,D6, D8,D10, D16,D18)	20559040442100	DS-442 (Sanyo)	7
D11, D13 (D12, D14)	20559020430110	DS-430 (Sanyo)	2

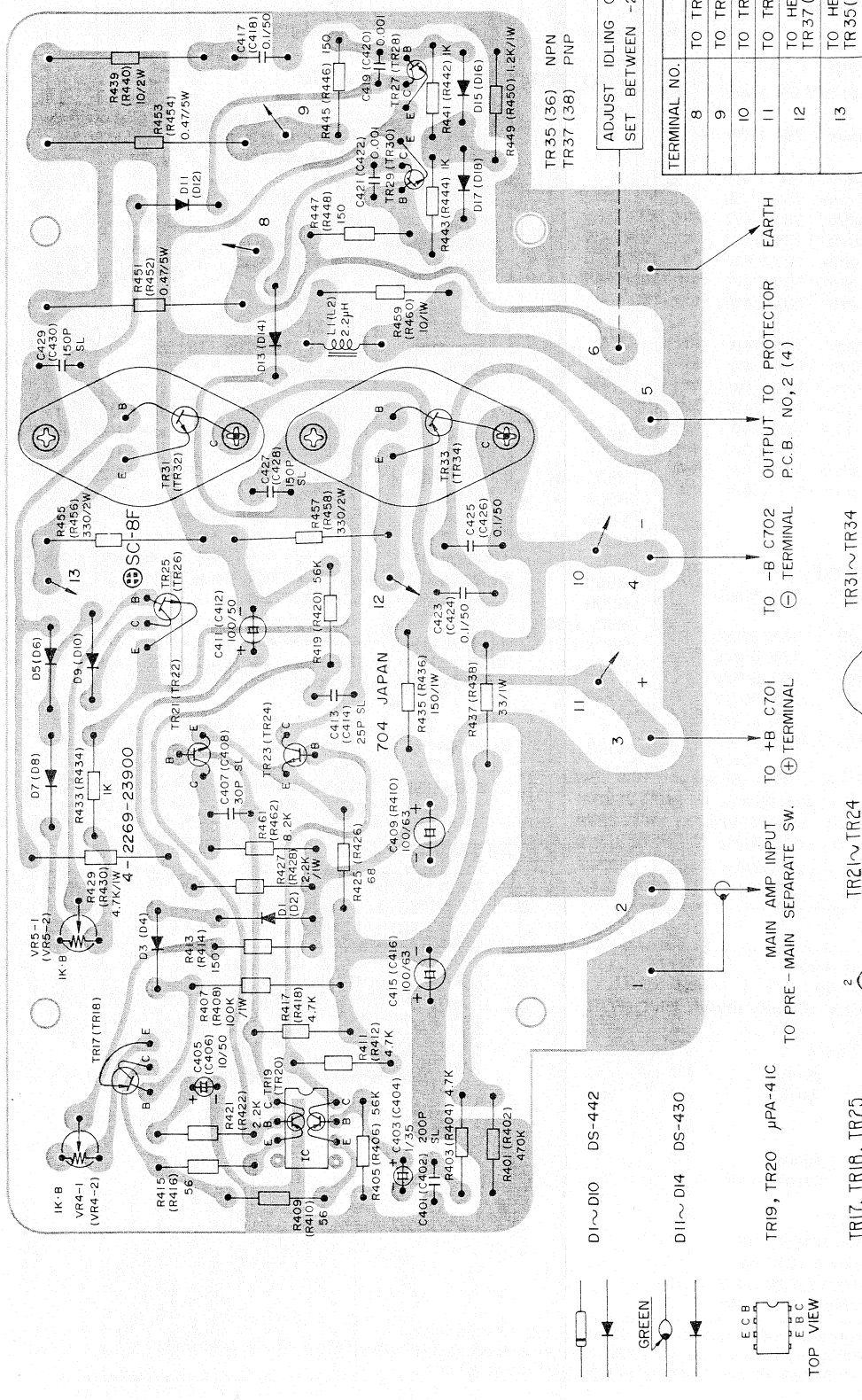
NOTES: 1. Parts orders must contain Model Number, Part Number and Description.
2. Unless other wise noted, component parts indicated by parentheses in the column Q'ty aro not available.
3. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

BOTTOM VIEW OF MAIN AMP P.C.B



TERMINAL NO.	
8	TO TR37(38) EMITTER
9	TO TR35(36) EMITTER
10	TO TR37(38) COLLECTOR
11	TO TR35(36) COLLECTOR
12	TO HEAT SINK MOUNTING TR37(38) SOCKET BASE
13	TO HEAT SINK MOUNTING TR35(36) SOCKET BASE

TOP VIEW OF MAIN AMP P.C.B



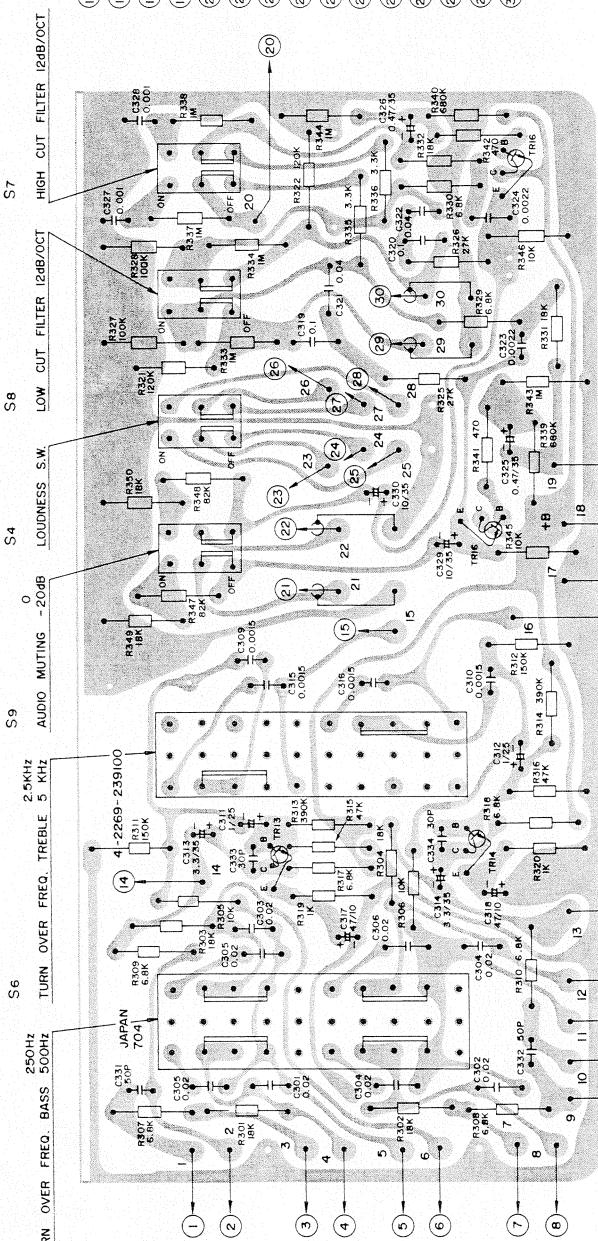
PARTS LIST

Ref. No.	Part No.	Description	Q'ty
TONE P.C.B ASSY PARTS			
	131 0 4001 30900	Printed Circuit Assy	1
	4 2269 23910	Printed Circuit Bd	1
	4 2319 22680	Switch Lever, 2 Position	4
	4 2319 22760	Switch Lever, 3 Position	2
		(TRANSISTOR)	
TR13-TR16	20355100693620	2SC693 FU	4
		(RESISTORS)	
R307-R310 R329,R330	R2EDSJ682A	Carbon 6.8k ohm ± 5% 1/4W	6
R301-R304 R331,R332	R2EDSJ183A	Carbon 18k ohm 5% 1/4W	6
R325,R326	R2EDSJ273A	Carbon 27k ohm 5% 1/4W	2
R327,R328	R2EDSJ104A	Carbon 100k ohm 5% 1/4W	2
R341,R342	R2EDSK471A	Carbon 470 ohm 10%1/4W	2
R319,R320	R2EDSK102A	Carbon 1 k ohm 10%1/4W	2
R335,R336	R2EDSK332A	Carbon 3.3k ohm 10%1/4W	2
R317,R318	R2EDSK682A	Carbon 6.8k ohm 10%1/4W	2
R305,R306 R345,R346	R2EDSK103A	Carbon 10k ohm 10%1/4W	4
R349,R350	R2EDSK183A	Carbon 18k ohm 10%1/4W	2
R315,R316	R2EDSK473A	Carbon 47k ohm 10%1/4W	2
R347,R348	R2EDSK823A	Carbon 82k ohm 10%1/4W	2
R321,R322	R2EDSK124A	Carbon 120k ohm 10%1/4W	2
R311,R312	R2EDSK154A	Carbon 150k ohm 10%1/4W	2
R313,R314	R2EDSK394A	Carbon 390k ohm 10%1/4W	2
R339,R340	R2EDSK684A	Carbon 680k ohm 10%1/4W	2
R333,R334 R337,R338 R343,R344	R2EDSK105A	Carbon 1 k ohm 10%1/4W	6
		(CAPACITORS)	
C309,C310 C315,C316	C1HFAK152A	Mylar 0.0015μF 10% 50WV	4
C301-C308	C1HFAK203A	Mylar 0.02 μF 10% 50WV	8
C327,C328	C1HFAK102A	Mylar 0.001 μF 10% 50WV	2
C323,C324	C1HFAK222A	Mylar 0.0022μF 10% 50WV	2
C321,C322	C1HFAK403A	Mylar 0.04 μF 10% 50WV	2
C319,C320	C1HFAK104A	Mylar 0.1 μF 10% 50WV	2
C317,C318	C1ARB-476A	Electrolytic 47 μF -10 - +150% 10WV	2
C325,C326	C1VTBX474A	Tantal 0.47μF -20 - +40% 35WV	2
C311,C312	C1ETBX105A	Tantal 1μF -20 - +40% 25WV	2
C313,C314	C1VTBX335A	Tantal 3.3μF -20 - +40W 35WV	2
C329,C330	C1VTBX106A	Tantal 10μF -20 - +40% 35WV	2
C333,C334	C1HCSM300SL	Ceramic 30pF ±20%50WV	2
C331,C332	C1HCSM500SL	Ceramic 50pF ±20%50WV	2
POWER SUPPLY P.C. B ASSY PARTS			
	131 0 4001 30600	Printed Circuit Assy	1
	4 2269 23880	Printed Circuit Bd	1
C608	4 2239 20600	Electrolytic Cap. 1000μF/70WV	1
		(TRANSISTOR)	
TR43	20358210325400	2SD325 D (Sanyo)	1
	(20358210325500	2SD325 E (Sanyo)	1)
		(DIODES)	
D23	20252320131100	DS-131B (Sanyo)	1
D22	DCC-1N4756-N-	1N4756 (Inter National)	1
		(RESISTORS)	
R605	R3AXPK560A	O.M.F. 56 ohm ± 10% 1W	1
R601	R3AXPK561A	O.M.F. 560ohm ± 10% 1W	1
R602-R604	R2EDSK221A	Carbon 220 ohm ± 10%1/4W	3
R606,R607	R2EDSK181A	Carbon 180 ohm ± 10%1/4W	2

Ref. No.	Part No.	Description	Q'ty
POWER SUPPLY P.C.B ASSY PARTS			
		(CAPACITORS)	
C604	C1HRB-337A	Electrolytic 330μF -10 - +150% 50WV	1
C601-C603 C606,C607	C1HRB-107A	Electrolytic 100μF -10 - +150% 50WV	5
C605	C1JRB-107A	Electrolytic 100μF -10 - +150% 63WV	1
PROTECTOR P.C.B ASSY PARTS			
	131 0 4001 31200	Printed Circuit Assy	1
	4 2269 23940	Printed Circuit Bd	1
	4 2329 20061	Relay, 48 V	1
		(TRANSISTORS)	
TR42	20354600875400	2SC875 D	1
TR39,TR41	20356701175400	2SC1175 D	2
TR40	20356800659400	2SA659 D	1
		(DIODES)	
D21	20252310130104	DS-130	1
D19,D20	20259110188205	1S188	2
D25,D26	20559020430110	DS-430	2
		(RESISTORS)	
R506	R2EDSK101A	Carbon 100 ohm ± 10% 1/4W	1
R510	R2EDSK181A	Carbon 180 ohm ± 10% 1/4W	1
R503,R517	R2EDSK222A	Carbon 2.2k ohm ± 10% 1/4W	2
R508	R2EDSK332A	Carbon 3.3k ohm ± 10% 1/4W	1
R504	R2EDSK100A	Carbon 10 ohm ± 10% 1/4W	1
R512	R2EDSK563A	Carbon 56k ohm ± 10% 1/4W	1
R507,R511	R2EDSK104A	Carbon 100k ohm ± 10% 1/4W	2
R505	R2EDSK683A	Carbon 68k ohm ± 10% 1/4W	1
R509	R3AXPK272A	O.M.F. 2.7k ohm ± 10% 1 W	1
R501,R502	R3AXPK222A	O.M.F. 2.2k ohm ± 10% 1 W	2
R515,R516	R2EDSK470A	Carbon 47 ohm ± 10% 1/4W	2
R513,R514	R2EDSK123A	Carbon 12k ohm ± 10% 1/4W	2
R518,R519	R3DXPK102A	O.M.F. 1 k ohm ± 10% 2 W	2
		(CAPACITORS)	
C503	C1HRB-476A	Electrolytic 47μF -10 - +150% 50WV	1
C501,C502	C1ERB-227A	Electrolytic 220μF -10 - +150% 25WV	2
SWITCH P.C.B ASSY PARTS			
	131 0 4001 30700	Printed Circuit Assy	1
	4 2269 23890	Printed Circuit Bd	1
	4 2319 22760	Switch Lever, S2. S13, S14	3

NOTES: 1. Parts orders must contain Model Number, Part Number, and Description.
2. Unless other wise noted, component parts indicated by parentheses in the column Q'ty aro not available.
3. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

BOTTOM VIEW OF TONE P.C.B



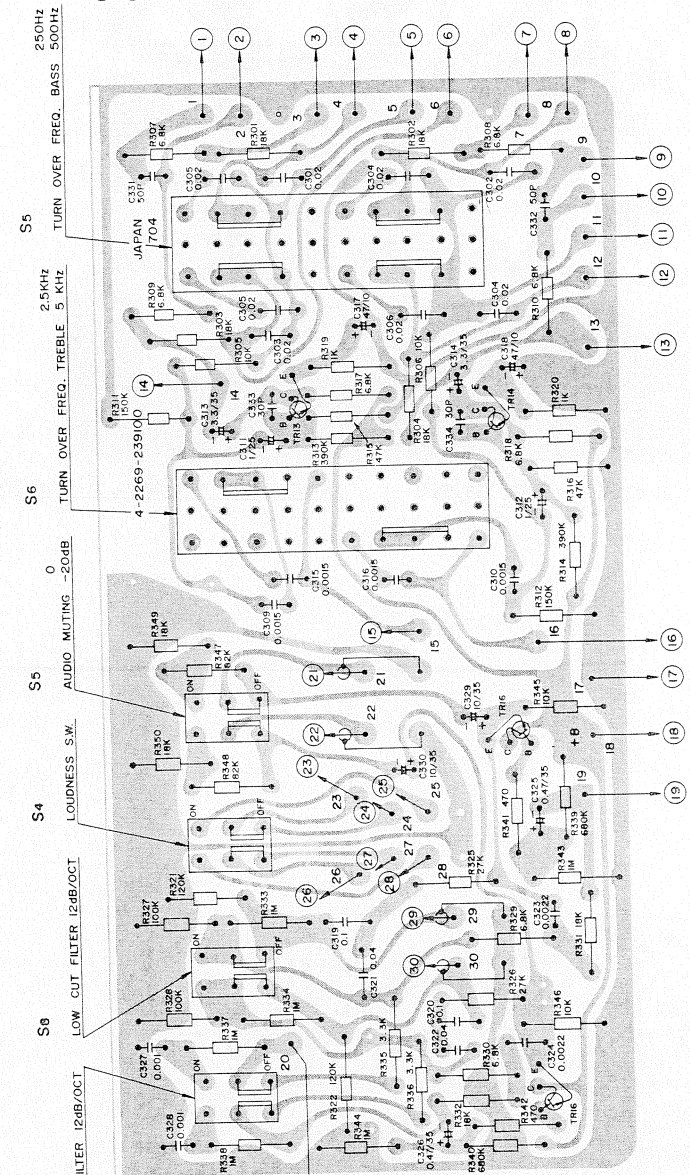
(1) TO TONE CONTROL SWITCH TREBLE L-CH NO,1
(2) TO TONE CONTROL SWITCH TREBLE L-CH NO,2
(3) TO PRE AMP OUTPUT L-CH NO,8
(4) TO TONE CONTROL SWITCH BASS L-CH NO,4
(5) TO TONE CONTROL SWITCH BASS(CENTER) NO,5
(6) TO TONE CONTROL SWITCH BASS (CENTER) NO,6
(7) TO PRE AMP OUTPUT R-CH NO,5
(8) TO TONE CONTROL SWITCH BASS R-CH NO,8
(9) TO TONE CONTROL SWITCH TREBLE R-CH NO,9
(10) TO TONE CONTROL SWITCH TREBLE R-CH NO,10
(11) TO TONE CONTROL SWITCH BASS(CENTER) R-CH NO,11
(12) TO TONE CONTROL SWITCH BASS R-CH NO,12
(13) JUMPING WIRE TO NO,30
(14) JUMPING WIRE TO, NO,29
(15) TO TONE CONTROL SWITCH TREBLE (CENTER) L-CH NO,15
(16) TO TONE CONTROL SWITCH TREBLE (CENTER) R-CH NO,16
(17) EARTH
(18) TO +B (+35V) POWER SUPPLY P.C.B. NO,5
(19) JUMPING WIRE
(20) JUMPING WIRE
(21) TO L-CH OUTPUT PRE P.C.B NO,3
(22) TO R-CH OUTPUT PRE P.C.B. NO,1
(23) TO PRE P.C.B. NO,12
(24) TO PRE P.C.B. NO,11
(25) TO PRE P.C.B. NO,18
(26) TO PRE P.C.B. NO,15
(27) TO PRE P.C.B. NO,14
(28) TO PRE P.C.B. NO,17
(29) JUMPING WIRE FROM NO,14
(30) JUMPING WIRE FROM NO,13

SWITCH POSITION

S4	S7	S8	S9 OFF
S5	S6		DEFEAT

TRI3 ~ TRI6 2SC693Fu (VCEO) 35V)

TOP VIEW OF TONE P.C.B


S7
HIGH CUT FILTER 12dB/OCT
S8
LOW CUT FILTER 12dB/OCT
S4
LOUDNESS S.W.
S5
AUDIO MUTING -20dB
S6
TURN OVER FREQ. TREBLE 2.5KHz 5 KHz
S5
TURN OVER FREQ. BASS 250Hz 500Hz
JAPAN 704
4-2269-2391(0)0
(1) TO TONE CONTROL SWITCH TREBLE L-CH NO,1
(2) TO TONE CONTROL SWITCH TREBLE L-CH NO,2
(3) TO PRE AMP OUTPUT L-CH NO,8
(4) TO TONE CONTROL SWITCH BASS L-CH NO,4
(5) TO TONE CONTROL SWITCH BASS(CENTER) NO,5
(6) TO TONE CONTROL SWITCH BASS(CENTER) NO,6
(7) TO PRE AMP OUTPUT R-CH NO,5
(8) TO TONE CONTROL SWITCH BASS R-CH NO,8
(9) TO TONE CONTROL SWITCH TREBLE R-CH NO,9
(10) TO TONE CONTROL SWITCH TREBLE R-CH NO,10
(11) TO TONE CONTROL SWITCH BASS(CENTER) R-CH NO,11
(12) TO TONE CONTROL SWITCH BASS R-CH NO,12
(13) JUMPING WIRE TO NO,30
(14) JUMPING WIRE TO, NO,29
(15) TO TONE CONTROL SWITCH TREBLE(CENTER) L-CH NO,15
(16) TO TONE CONTROL SWITCH TREBLE(CENTER) R-CH NO,16
(17) EARTH
(18) TO +B (+35V) POWER SUPPLY P.C.B. NO,5
(19) JUMPING WIRE
(20) JUMPING WIRE
(21) TO L-CH OUTPUT PRE P.C.B NO,3
(22) TO R-CH OUTPUT PRE P.C.B. NO,1
(23) TO PRE P.C.B. NO,12
(24) TO PRE P.C.B. NO,11
(25) TO PRE P.C.B. NO,18
(26) TO PRE P.C.B. NO,15
(27) TO PRE P.C.B. NO,14
(28) TO PRE P.C.B. NO,17
(29) JUMPING WIRE FROM NO,14
(30) JUMPING WIRE FROM NO,13

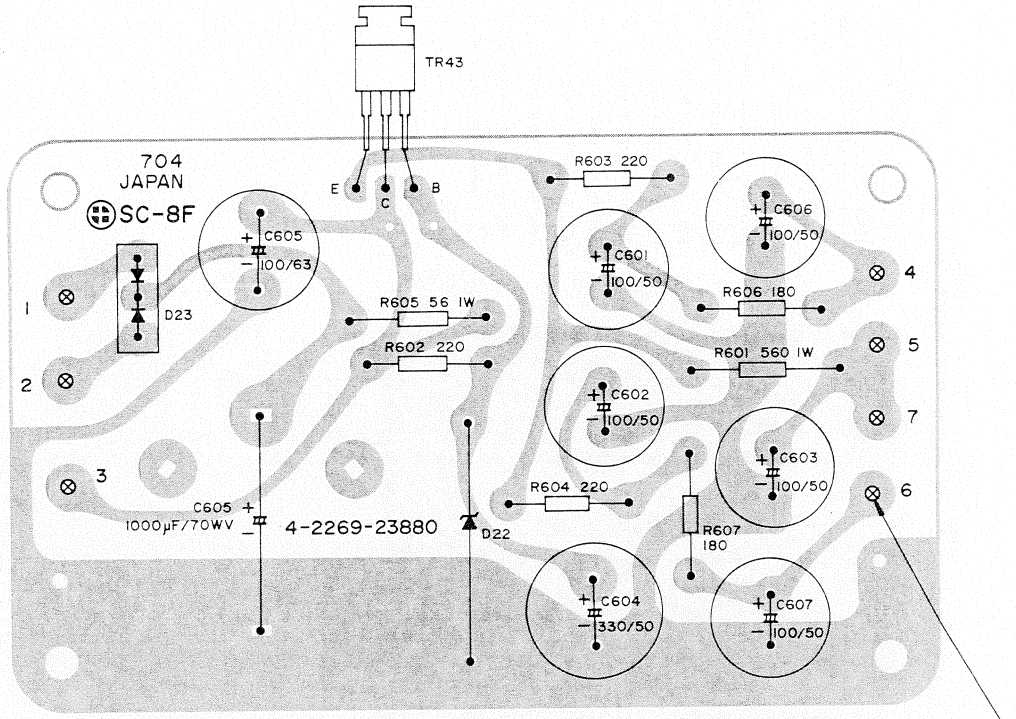
SWITCH POSITION

S4 S7 S8 OFF
S5 DEFEAT
S6

TR13 ~ TR16 2SC693Fu (VCEO) 35V)

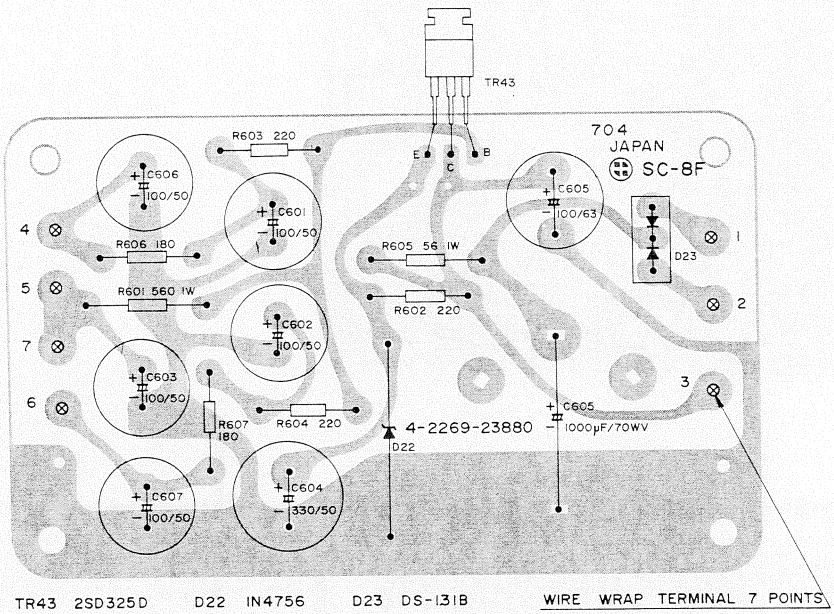
BOTTOM VIEW

BOTTOM VIEW OF POWER SUPPLY P.C.B



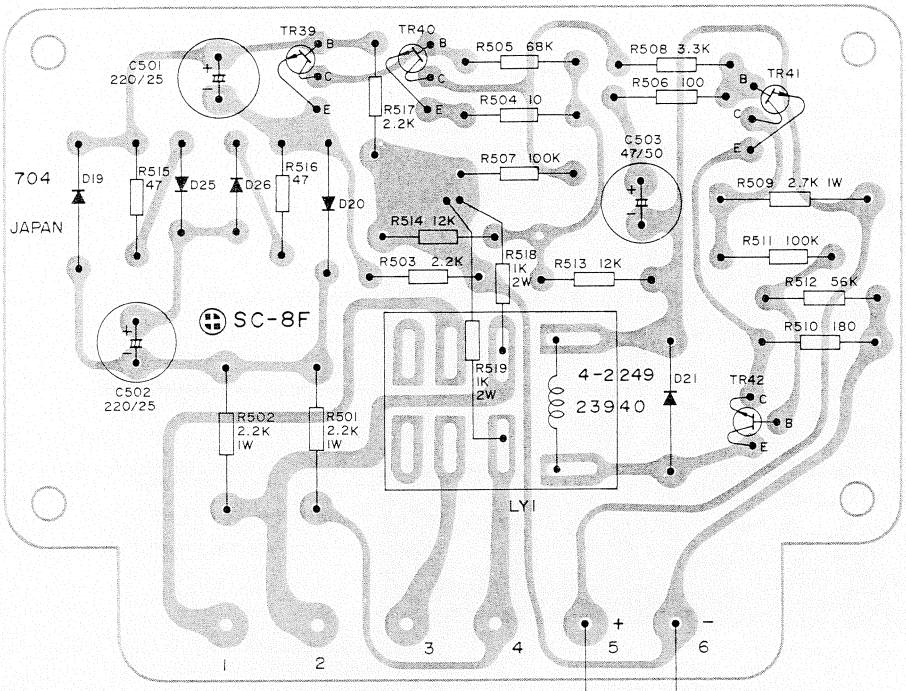
TR43 2SD325D D22 IN4756 D23 DS131B WIRE WRAP TERMINAL 7 POINTS

TOP VIEW OF POWER SUPPLY P.C.B



TR43 2SD325D D22 IN4756 D23 DS-131B WIRE WRAP TERMINAL 7 POINTS

BOTTOM VIEW OF PROTECTOR P.C.B

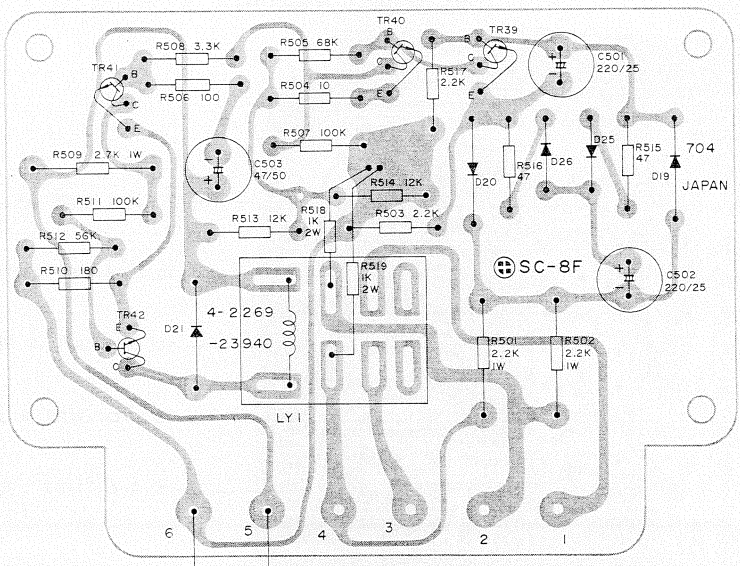


TR39, TR41 2SC1175D TR40 2SA659D
TR42 2SC875D
D19, D20 IS188 D21 DS-130
D25, D26 DS-430

TO POWER SUPPLY P.C.B. EARTH

TO POWER SUPPLY P.C.B. NO,3

TOP VIEW OF PROTECTOR P.C.B



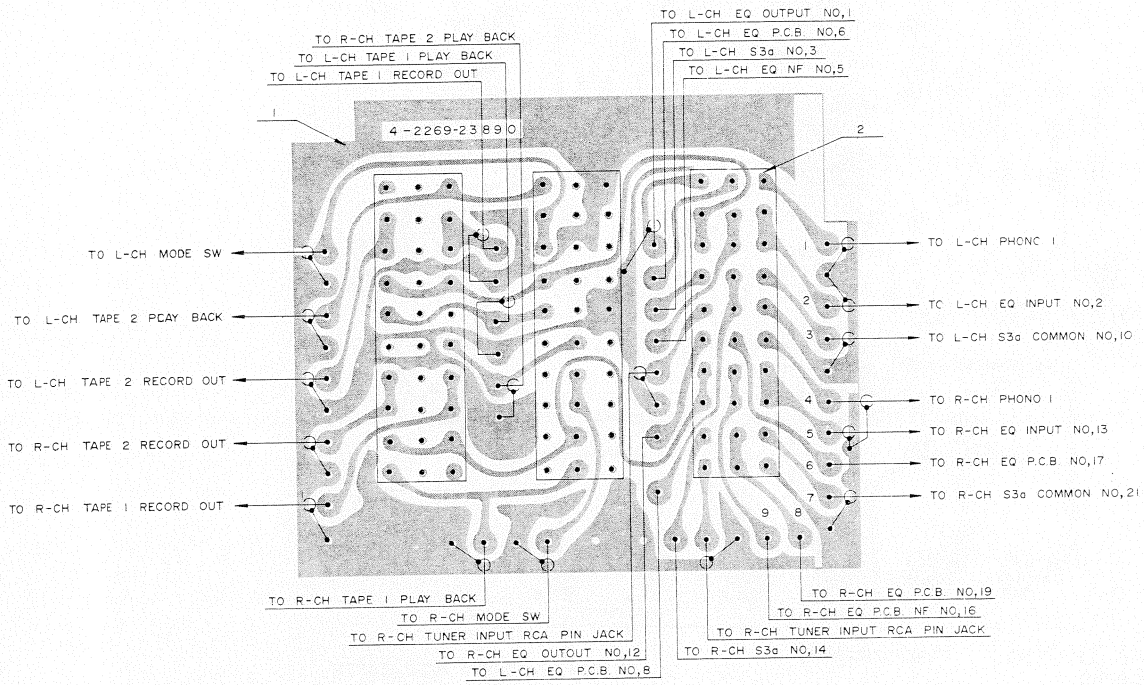
TR39, TR41 2SC1175D TR40 2SA659D TR42 2SC875D

TO POWER SUPPLY P.C.B. NO,3

TO POWER SUPPLY P.C.B. EARTH

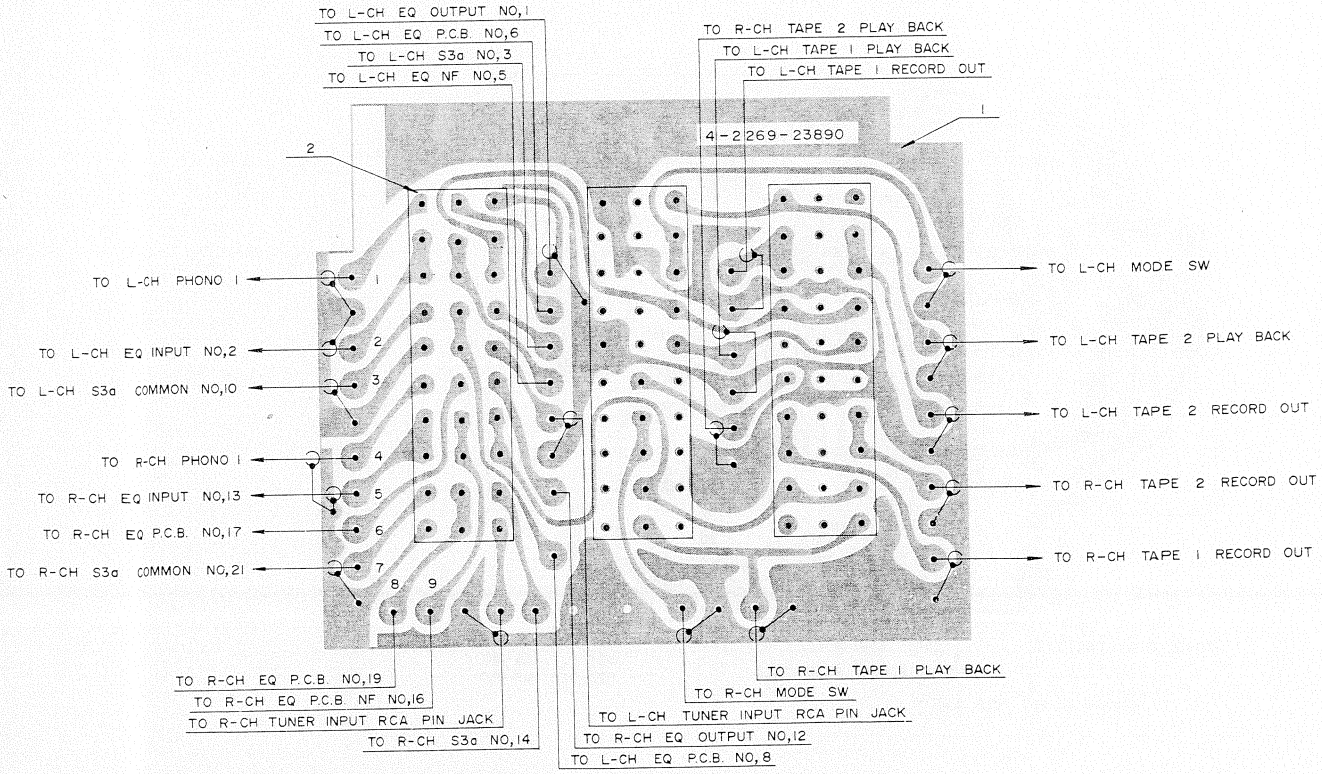
D19, D20 IS188
D21 DS-130
D25, D26 DS-430

BOTTOM VIEW OF SWITCH P.C.B

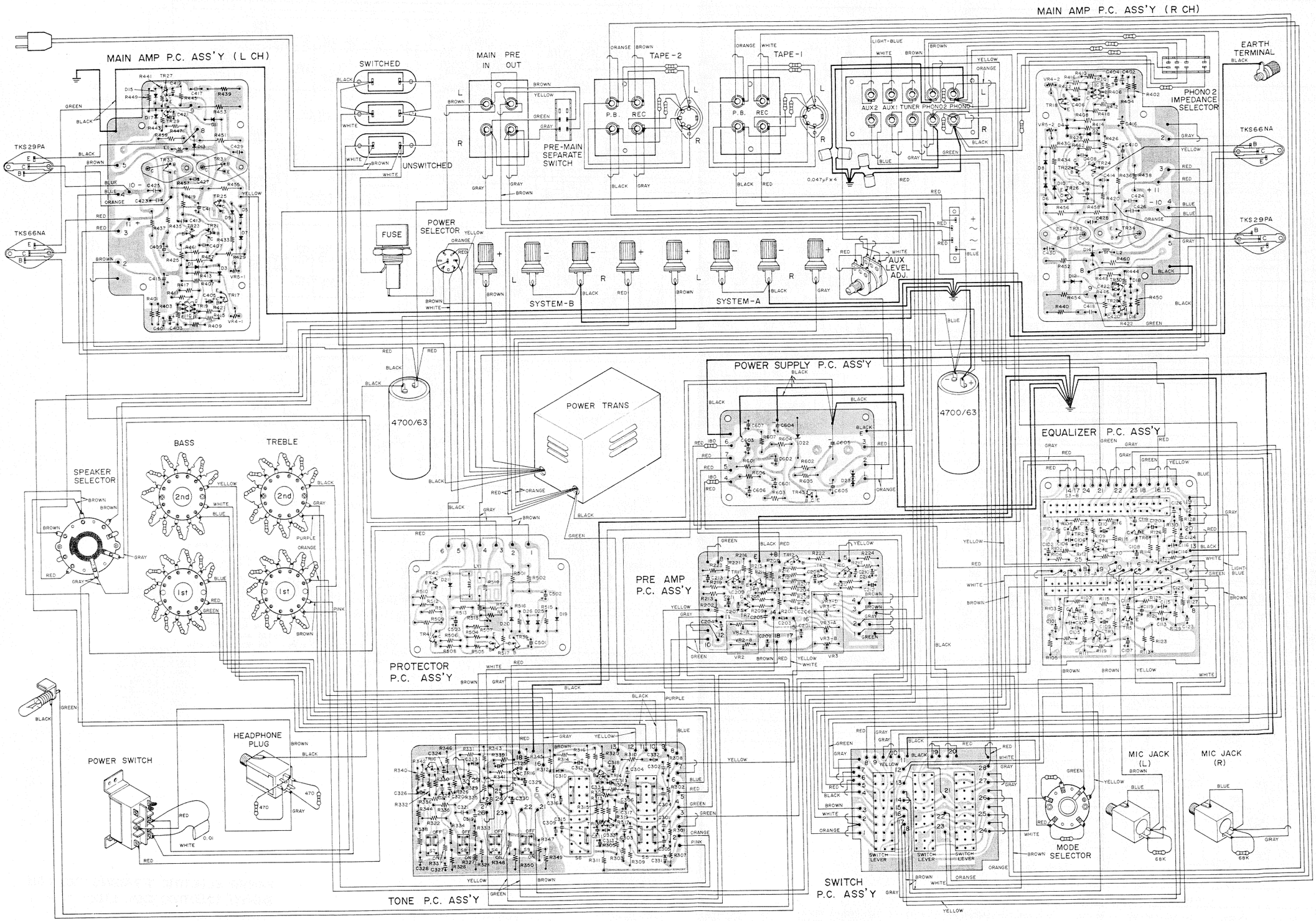

TO L-CH EQ OUTPUT NO,1
TO L-CH EQ P.C.B. NO,6
TO L-CH S3a NO,3
TO L-CH EQ NF NO,5
TO R-CH TAPE 2 PLAY BACK
TO L-CH TAPE 1 PLAY BACK
TO L-CH TAPE 1 RECORD OUT
4-2269-23890
TO L-CH MODE SW
TO L-CH TAPE 2 PCAY BACK
TO L-CH TAPE 2 RECORD OUT
TO R-CH TAPE 2 RECORD OUT
TO R-CH TAPE 1 RECORD OUT
TO L-CH PHONC 1
TC L-CH EQ INPUT NO,2
TO L-CH S3a COMMON NO,10
TO R-CH PHONO 1
TO R-CH EQ INPUT NO,13
TO R-CH EQ P.C.B. NO,17
TO R-CH S3a COMMON NO,21
TO R-CH TAPE 1 PLAY BACK
TO R-CH MODE SW
TO R-CH TUNER INPUT RCA PIN JACK
TO R-CH EQ OUTOUT NO,12
TO L-CH EQ P.C.B. NO,8
TO R-CH EQ P.C.B. NO,19
TO R-CH EQ P.C.B. NF NO,16
TO R-CH TUNER INPUT RCA PIN JACK
TO R-CH S3a NO,14

RMK	PART CORD	MATERIAL	QT.	NAME
1	4-2269-23890-1	XP. 1.6t	1	PRINTED CIRCUIT BOARD
2	4-2319-22760-1	30P 6-3	3	SWITCH LEVER

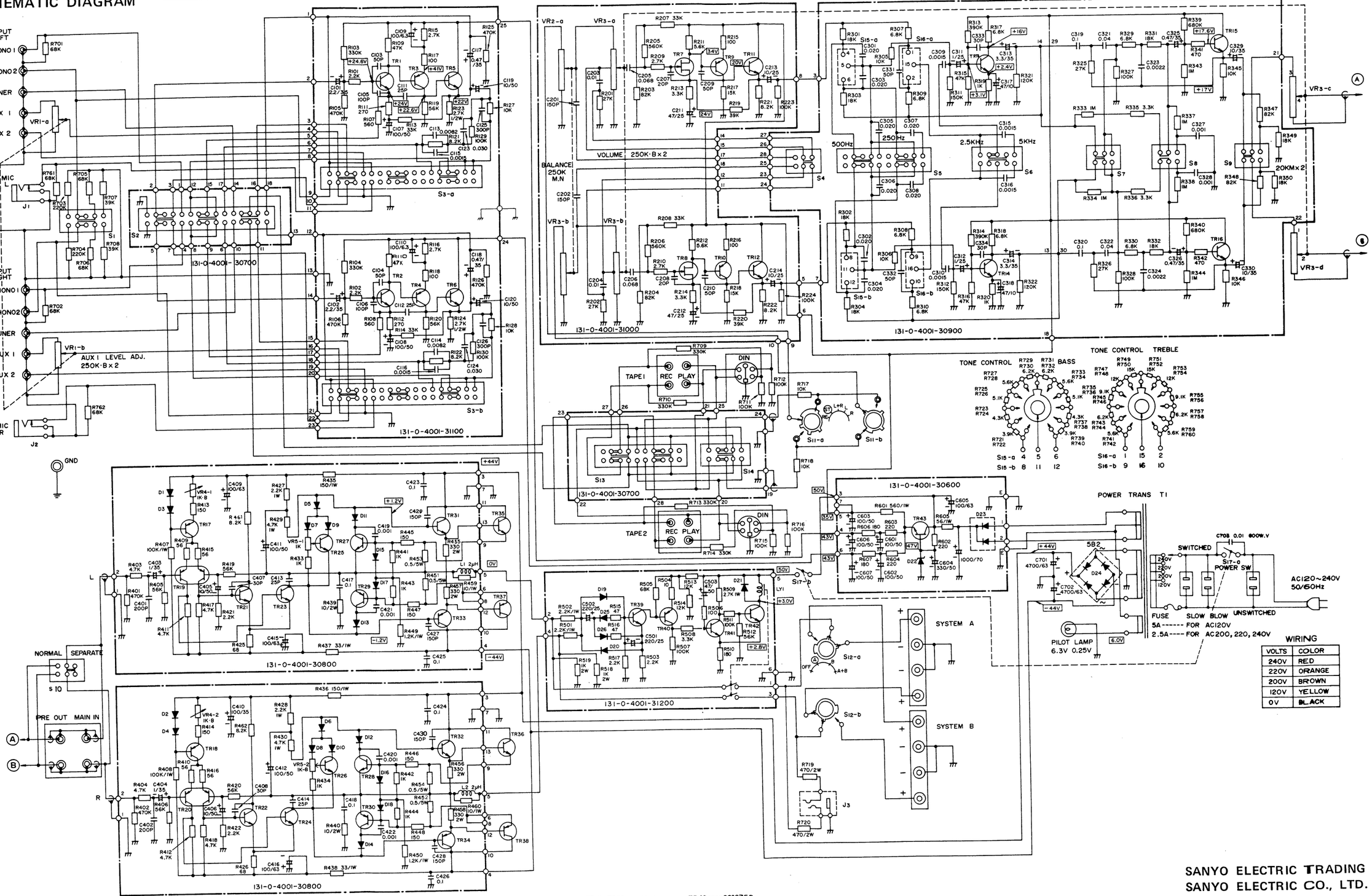
TOP VIEW OF SWITCH P.C.B


TO L-CH EQ OUTPUT NO,1
TO L-CH EQ P.C.B. NO,6
TO L-CH S3a NO,3
TO L-CH EQ NF NO,5
TO R-CH TAPE 2 PLAY BACK
TO L-CH TAPE 1 PLAY BACK
TO L-CH TAPE 1 RECORD OUT
4-2269-23890
TO L-CH PHONO 1
TO L-CH EQ INPUT NO,2
TO L-CH S3a COMMON NO,10
TO R-CH PHONO 1
TO R-CH EQ INPUT NO,13
TO R-CH EQ P.C.B. NO,17
TO R-CH S3a COMMON NO,21
TO L-CH MODE SW
TO L-CH TAPE 2 PLAY BACK
TO L-CH TAPE 2 RECORD OUT
TO R-CH TAPE 2 RECORD OUT
TO R-CH TAPE 1 RECORD OUT
TO R-CH EQ P.C.B. NO,19
TO R-CH EQ P.C.B. NF NO,16
TO R-CH TUNER INPUT RCA PIN JACK
TO R-CH S3a NO,14
TO R-CH TAPE 1 PLAY BACK
TO R-CH MODE SW
TO L-CH TUNER INPUT RCA PIN JACK
TO R-CH EQ OUTPUT NO,12
TO L-CH EQ P.C.B. NO,8

RMK	PART CORD	MATERIAL	QT	NAME
1	4-2269-23890-1	XP. 1.6t	1	PRINT CIRCUIT BOARD
2	4-2319-22760-1	30P 6-3	3	SWITCH LEVER


MAIN AMP P.C. ASS'Y (L CH)
MAIN AMP P.C. ASS'Y (R CH)
SWITCHED
UNSWITCHED
MAIN PRE IN OUT
PRE-MAIN SEPARATE SWITCH
TAPE-2
TAPE-1
P.B. REC
AUX2 AUX1 TUNER PHONO2 PHONO1
0.047μF x 4
EARTH TERMINAL
PHONO 2 IMPEDANCE SELECTOR
TKS29PA
TKS66NA
FUSE
POWER SELECTOR
SYSTEM-B
SYSTEM-A
AUX LEVEL ADJ.
4700/63
POWER TRANS
POWER SUPPLY P.C. ASS'Y
EQUALIZER P.C. ASS'Y
BASS
TREBLE
SPEAKER SELECTOR
2nd
1st
PRE AMP P.C. ASS'Y
PROTECTOR P.C. ASS'Y
HEADPHONE PLUG
POWER SWITCH
0.01
470
TONE P.C. ASS'Y
SWITCH P.C. ASS'Y
SWITCH LEVER
MODE SELECTOR
MIC JACK (L)
MIC JACK (R)
68K

SCHEMATIC DIAGRAM



D1~D10, D15~D18 --- DS-422
D19, D20 ---------- DS-430
D25,D26 ---------- 1S188
D21 ---------- DS-130

D22 -------- 1N4756
D23 -------- DS-131B
D24 -------- 5B2
D11~D14 ---- DS-430

TR1, TR2, TR5, TR6 ---- TIS-97A
TR3, TR4, TR9, TR10 --- 2SA726
TR7, TR8 ---------- 2SK24E
TR11~TR16 -------- 2SC693Fu

TR17, TR18, TR29, TR30, TR40 ---- 2SA659D
TR19, TR20 ---------- μPA-41C
TR21~TR24 ---------- 2SC1097
TR25~TR28, TR39, TR41 ------ 2SC1175

TR31, TR32 ---- 2SC1161
TR33, TR34 ---- 2SA653
TR35, TR36 ---- TKS66N
TR37, TR38 --- TKS29P

TR42 ---- 2SC875D
TR43 ---- 2SD325D

SANYO ELECTRIC TRADING CO., LTD
SANYO ELECTRIC CO., LTD.
OSAKA, JAPAN

WM-685 Mar./'73 /2000 Printed in Japan